

Bioterrorism Hospital Preparedness

2002 Emergency Supplemental

**Missouri
Department of Health
& Senior Services**



BIOTERRORISM HOSPITAL PREPAREDNESS PROGRAM

This application is organized to correspond to the Health Resources and Services Administration's (HRSA) cooperative agreement, Bioterrorism Hospital Preparedness Program Guidance, Phase II.

BACKGROUND AND HISTORY

In May of 2000, the Missouri Department of Health and Senior Services (DHSS) created a special unit for Emergency Response and Terrorism to respond to the potential threat of weapons of mass destruction, as well as chemical and biological agents in Missouri. It is staffed by a medical epidemiologist and an emergency coordinator and supported by the expertise of the entire department, including highly trained epidemiologists and communicable disease prevention specialists. This unit, located in the Director's Office and under the direct oversight of the director, advises the Department on the development, planning, training and implementation of an emergency/terrorism management plan and coordinates with the state emergency management system regularly. Missouri is proposing, under the CDC Bioterrorism Cooperative Agreement, to increase the responsibilities and staff, changing the Unit to the Center for Emergency Response/Terrorism.

Twelve work groups were developed by DHSS to work on a State Plan for emergency response covering the areas of:

- Mass Medical Care
- Mass Prophylaxis
- Prevention of Secondary Transmission/Quarantine
- Surveillance
- Public Information
- Care of the Deceased/Legal Issues/Psychological Issues
- Operations/Logistics
- Training
- Outbreak Investigation
- Radiological/Chemical Response
- Public Laboratory Roles
- Computer Readiness/Communications

These workgroups were designed to address weaknesses in state public health plans and infrastructure identified by observation of the TOPOFF exercise in Denver, Colorado in 2000 and our own state exercises for influenza pandemic preparedness. The final product of these work groups is a broad emergency/terrorism response plan with updated specific standard operating procedures for DHSS. The plan is currently in draft stage and will be reviewed, evaluated and updated in the coming months.

The state already has in existence an emergency response plan, but the department will include updates to assure a more coordinated and comprehensive plan. This includes the integration of department-specific new bioterrorism initiatives into the overall state plan. In addition, efforts are already underway to delineate roles and responsibilities for other local, state and federal agencies, as well as to increase the degree of focus and collaboration to assure adequate medical and mental health care.

Currently, Annex K of the State of Missouri Emergency Operations Plan delineates the responsibilities of the DHSS. These responsibilities include:

- Coordinate health and medical services for the State.
- Coordinate patient care by health care facilities.
- Support distribution of medical supplies.

- Be responsible for health care matters, i.e., health education, epidemiology and mass inoculations, coordinate environmental and sanitation health issues with the Department of Natural Resources, Department of Agriculture, etc.
- Support the Department of Mental Health in crisis counseling.
- Assist and support local ambulance services and paramedics.
- Coordinate animal and zoonotic outbreaks with the Department of Agriculture.

The Mass Medical Care Work Group began work that will be utilized in the HRSA Hospital Bioterrorism grant needs assessment. The following charges were given to the Mass Medical Care Work Group:

- Develop a list of hospital assets within the state (ventilator beds, negative pressure rooms, bed capacity, etc.) and determine in an ongoing and current way, the number of beds, types of beds available in hospitals and the number of patients needing to be seen and where they are.
- Develop DHSS criteria for hospital emergency/terrorist plans for mass casualty events.
- Create lists of medical personnel in Missouri who could be called upon to assist in an emergency/terrorist event in seeing patients.

In terms of Missouri's early planning for possible bioterrorism events, DHSS also signed the first-ever Memorandum of Understanding (MOU) between a state health department and the Federal Bureau of Investigation. That MOU was signed in 1999 with the FBI and details the agreement to join forces in the investigation of crimes where the use of chemical or biological agents that could affect the public health and safety of Missouri citizens is suspected. Missouri's State Public Health Laboratory currently conducts testing for the FBI in suspect bioterrorism events and is part of the national bioterrorism response network.

Following the events of September 11, the need for enhanced communication among hospitals, state emergency management, and other emergency service providers regarding hospital capacity and notifications regarding management of bioterrorism threats and identification of such cases became evident. For example, the timeliness and comprehensiveness of distribution of the Health Alert Network notifications varied across the state and emergency service providers.

Between October and December 2001, DHSS mobilized for two emergency response events in the aftermath of September 11, 2001: a cutaneous ulcer with lymphadenitis initially thought to be B. anthracis (and rapidly ruled out) in the City of St. Louis, and B. anthracis contamination in a mail facility of Kansas City. Both of these events involved a response, and likely resulted in increased presentation of worried well to local hospitals. However, neither incident provided the degree of stress to the hospital preparedness system that is contemplated by this cooperative agreement.

The State of Missouri currently licenses 140 hospitals. Of those 140 hospitals, 124 are licensed as acute care, medical surgical hospitals; 9 as psychiatric facilities, 5 as rehabilitation hospitals and 2 as long-term acute care hospitals. In addition to the licensed hospitals in the state, there are 2 state-run acute care hospitals that are administered under the University of Missouri. There are also a total of 4 Veterans Administration hospitals located within the state, as well as a military hospital located at Fort Leonard Wood, Missouri. In addition, the 375th Medical Group Scott Air Force Base hospital with 85 medical/surgical beds is a member of the St. Louis Metropolitan Hospital Council of the Missouri Hospital Association and is located across the state line in Illinois. The licensed hospitals listed above include 3 children's hospitals. There are approximately 23,000 licensed medical/surgical beds and approximately 300 medical/surgical/critical care beds in VA and military hospitals. Of these beds, approximately 18,000 are staffed beds that would be available for immediate use. In addition to the hospital facilities, the state licenses 51 Ambulatory Surgical Centers that are capable of performing minor

surgical procedures. Physicians, professional nurses, anesthesiologists, certified nurse anesthetists and surgical technicians staff these facilities.

The Department of Health and Senior Services licenses 216 ground ambulance services throughout the state. Of the ambulance services licensed through the department, 104 are ambulance districts, 28 are fire protection districts, 23 are operated by city fire departments, 17 by city governments, 27 by private or public hospitals, 11 by private companies, 3 by county governments and 3 are totally volunteer. To be licensed as an ambulance by the state program, an ambulance service must be available to respond to emergency calls 24 hours a day, 7 days a week without exception. In addition to ground ambulances, the department licenses 6 helicopter ambulance services that provide statewide medical transportation to the most critical patients.

The department also licenses the individual Emergency Medical Technicians and Paramedics. As of February 2002, there were a total number of 8,904 EMTs and 4,053 EMT/Paramedics licensed within the state.

The following information approximates the number of hospitals, trauma centers and community health centers within the nine regions in Missouri:

- Region A - 24 hospitals, 5 level II, 2 level I, 1 pediatric; 3 CHCs
- Region B - 8 hospitals, 2 level III; 1 CHC
- Region C - 23 hospitals, 3 level III, 4 level II, 3 level I, 2 pediatric; 4 CHCs
- Region D - 14 hospitals, 1 level III, 4 level II; 1 CHC
- Region E - 9 hospitals, no trauma centers; 2 CHCs
- Region F - 12 hospitals, 2 level III, 1 level I; 1 CHC
- Region G - 4 hospitals, no trauma center; 2 CHC
- Region H - 7 hospitals, 1 level II; 1 CHC
- Region I - 4 hospitals, 1 level III; 1 CHC

(See attached map for region boundaries.)

There are many hospitals in Missouri that operate outpatient and physician clinics as well the ambulance service. However, the degree of existing collaboration among hospitals, outpatient facilities, community health centers and EMS for both terrorism and general disaster response is not comprehensively known across the state. Collaboration in the metropolitan areas is more comprehensive than in other areas of the state, however, the extent of collaboration is believed to vary considerably among regions. The needs assessment will result in more thorough and detailed knowledge of the current collaboration among these entities.

Missouri hospitals currently have security and disaster plans that are required by accrediting and licensing bodies. Hospitals have had such plans in place for years and the plans are reviewed and drills performed and monitored on an ongoing basis. Many hospitals have taken steps to update their disaster plans since September 11 to include biological and chemical terrorist events and have enhanced collaboration with regional emergency planning organizations. However, the extent to which this has occurred throughout the state is thought to be varied and an issue that needs to be addressed within the proposed needs assessment.

DHSS works closely with a number of local, regional and state agencies related to public health, rural health, public safety and emergency management. DHSS works closely with the Missouri State Emergency Management Agency (SEMA) and Missouri Department of Public Safety in emergency preparedness. The agencies have conducted joint exercises and developed plans together to delineate the unique roles of our agencies in bioterrorism response and preparedness. SEMA also will be the point of

contact to activate the Disaster Medical Assistance Team (DMAT) in Missouri (located in St. Louis region). SEMA has a representative on the Bioterrorism Preparedness Committee and is working closely with DHSS to ensure collaboration and coordination in emergency planning for the HRSA, CDC and other emergency planning grants in Missouri.

DHSS also works with the Missouri Department of Agriculture in conducting surveillance for zoonotic diseases and in designing intervention and response plans should these diseases occur in Missouri which would greatly impact rural Missouri. The Department of Agriculture is one of several agencies being considered for inclusion when the Bioterrorism Preparedness Committee expands its membership.

DHSS and the Missouri Department of Natural Resources (DNR) have similar roles in protection of water systems. DHSS focuses on individual water supplies that primarily impact rural Missouri while DNR has authority over community water systems. The agencies work together in identifying the common issues and identifying which agency has jurisdiction in particular issues. In environmental spills, the departments often both respond, with DNR charged with overseeing the risk assessment and protection of the environment and DHSS overseeing the human risk assessment and protection issues.

DHSS's Center for Health Improvement includes the Office of Rural Health, which has established partnerships with critical access hospitals that are sentinel health care providers in rural Missouri. The Center also collaborates with the Missouri Primary Care Association to increase access throughout Missouri to vital health care services.

Missouri's public health system consists of DHSS at the state level and the 114 independently governed local public health agencies. There is a strong connection – with shared responsibility for the public health of Missouri's citizens – between the entities. DHSS has a Local Public Health Advisory Committee that meets regularly to provide advice and share issues. This committee is chaired by a member of the HRSA and CDC grant advisory committee (Missouri's Bioterrorism Preparedness Committee).

Missouri has two Metropolitan Medical Response Systems (MMRS) located in St. Louis and Kansas City. The department's emergency coordinator is a member of both MMRS groups in Missouri. The Bioterrorism Preparedness Committee will review membership to determine other needed members of the committee; representation of the MMRS is expected to be added to this advisory committee.

Last fall, a Missouri Security Panel was appointed by Governor Bob Holden to provide an analysis of homeland security preparedness. Many of the parties involved are still working together to prepare stronger antiterrorism and disaster planning initiatives. The Public Health, Medical and Environment Committee of the panel provided an initial overview of the status and priority needs of public health and medical systems and structures to prepare for possible terrorism events. The needs assessment will be used to obtain more specific information regarding hospitals, outpatient facilities and Emergency Medical Services (EMS), as well as the available resources, amount and sources of funding that are available for antiterrorism and disaster planning initiatives within the state.

Some hospitals in the state have experienced periods of bed shortages, particularly in some metropolitan hospitals as well as some larger municipalities. These shortages most often last only one or two days to a week before correcting themselves. Seven Missouri hospitals have closed between 1999 and 2000. Hospital emergency departments have experienced a dramatic increase in use with visits rising nearly 28 percent between 1990 and 1999, from 1.8 million visits to 2.3 million visits. Over the past six months, approximately 6 percent of total hours of emergency department operation in metropolitan area hospitals have been hours when the emergency department has been on diversion status for ambulances. These diversions are largely a result of emergency department overloads, which usually occur in the evening

hours and on weekends. Both large metropolitan centers of the state have worked to address these diversion issues by developing community plans through collaboration of hospitals, EMS, fire departments and physician groups. The state has also implemented a regulation that requires hospitals to have a written diversion policy in place and report incidents of diversion to the Department of Health and Senior Services. This data is collected to study how many hours hospitals are diverting ambulances as well as the causes.

DHSS and the Missouri Hospital Association have a history of successful public-private partnerships that will be beneficial for purposes of meeting the objectives of the HRSA Hospital Bioterrorism Preparedness Program. All hospitals in Missouri are members of the Missouri Hospital Association.

The relationship between DHSS and the Missouri Primary Care Association is built on a solid foundation and will be advantageous in the fulfillment of the cooperative agreement.

NEEDS ASSESSMENT

While a number of assessment tools and surveys have been completed by hospitals and many other health care entities in the state of Missouri, it is important to note that not all of the information has been analyzed. It is impossible to adequately plan without first completing an accurate and thorough assessment of the state of the health care system and its ability to respond to a bioterrorist event.

To perform an adequate needs assessment will take time. The first step in the process will be to critically analyze the assessments from the recent past and present assessments that have already been performed in Missouri by various partners. Past and present assessments include:

- State Capability Assessment for Readiness (CAR) X – Federal Emergency Management Agency
- Emergency Response Survey – National Association of County and City Health Officials
- Hospital Resources Assessment – American Hospital Association
- Disaster Readiness Assessment – American Hospital Association
- Chemical and Bioterrorism Preparedness Checklist – American Hospital Association
- Health Center Disaster Preparedness Survey – National Association of Community Health Centers
- Hospital Isolation Capability -- Missouri Department of Health and Senior Services
- Hazardous Materials Hospital Preparedness Survey – Missouri Department of Health and Senior Services (draft)
- Missouri Hospitals, Disaster Preparedness – Missouri Hospital Association
- Hospital Security Assessment Guide and Tool – Missouri Hospital Association
- Workforce Status in Missouri Hospitals: An Overview – Missouri Hospital Association
- Care About Missouri's Hospitals Campaign – Missouri Hospital Association (provides information about population, vacancy rates, capacity and utilization, acuity and case mix, technology, and financial situation of Missouri's hospitals)

The Missouri Security Panel also completed a brief assessment. The following findings were based on the opinions of the experts assigned to the panel's Committee on Public Health, Medical and Environment:

- Public health providers lack the training and resources for responding to a terrorist attack involving weapons of mass destruction. State and local disaster plans are not integrated. Serious problems will surface if any interruption in the transportation of supplies, food, pharmaceuticals and equipment occurs.
- Public health providers do not have an adequate system of surveillance for early detection of bioterrorism. Furthermore, the public health system does not have an adequate infrastructure of employees and providers to assist during a terrorist attack or bioterrorism attack.

- Missouri does not maintain a stockpile of pharmaceuticals, and access to the federal supply would be slow during an attack. The health care delivery system is not prepared to handle a large and sudden influx of sick or injured. Treatment facilities, staff, and supplies are inadequate for events with mass casualties. There is not a good effective way to keep track of the status and location of professional health care providers, patients, victims, volunteers and the deceased within the system.
- If Missouri were attacked with bioterrorism, the communication among federal, state and local levels of government and the public would be inadequate. First responders, healthcare providers, law enforcement, fire departments and emergency management need to understand the requirements for them and improve information sharing.
- Response infrastructure may not be secure during a terrorist attack. Inadequate threat assessments for primary or secondary exposure to a biological agent would likely place Missouri's citizens at risk. Physical facilities are designed with open egress and ingress. Normal response facilities may be contaminated and rendered inoperable or non-functioning during a bioterrorism attack.

These findings will be incorporated into the analysis of all the other assessments that have been completed.

The Bureau of Primary Health Care and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) have identified seven strategic components for Emergency Preparedness Plan development:

- Assessment of internal and external risks to which the health center may need to respond
- Evaluation of the health center's capacity in a crisis
- Identification of local emergency management agencies/authorities
- Clinical preparedness and training
- Communications
- Equipment and facilities
- Supplies

These elements are by no means the only components of an emergency preparedness plan; however, this is an excellent starting point for hospitals and other health care providers to begin developing policies, plans, and procedures for effective bioterrorism preparedness.

After completing the review of the existing assessments, it will be necessary to analyze the gaps that exist in the assessments. Upon completion of the gap analysis, a more detailed assessment tool will be constructed to supplement the information that has already been gathered. The purpose of this assessment tool will be to provide a comprehensive, coordinated method to obtain the supplemental information to determine statewide and region-specific needs.

The assessment and data-gathering tool will be designed as a continual process so it can appropriately reflect the state of the health care delivery system and its ability to respond to bioterrorism.

By July 2002, a comprehensive document summarizing all of the existing assessments will be prepared and presented to the Bioterrorism Preparedness Committee.

Following review and recommendations by the committee, an assessment tool will be developed to assess the informational gaps that still exist within Missouri. This assessment tool will be completed and presented to the committee. At a minimum, the assessment will result in a database of all hospitals, outpatient facilities, EMS systems and poison control centers within Missouri by December 2002.

The department recognizes the need for information related to the issues identified in the guidance, and will assure that the issues as well as other issues relevant to hospital bioterrorism preparedness in Missouri are addressed through the needs assessments.

In addition, identification of hospitals with specialized capabilities and capacity to treat defined patient populations in a bioterrorism situation will be completed as a component of the needs assessment.

CRITICAL BENCHMARKS

1. Program Direction

The Missouri DHSS has designated Susan Jenkins, director of the Center for Emergency Response/Terrorism, to serve as executive director for the HRSA Hospital Preparedness Planning grant and as executive director of the CDC Bioterrorism Preparedness and Response program grant. Ms. Jenkins has over 27 years of progressively responsible budgeting, planning and policy analysis experience in Missouri state government (see attached curriculum vitae).

The responsibilities of the executive director will include the following:

- Ensure coordination and collaboration in bioterrorism and emergency response planning;
- Manage staff and activities of the HRSA and CDC grants to ensure that Missouri is fulfilling the requirements of the HRSA and CDC grants;
- Evaluate Missouri's bioterrorism preparedness and response capabilities and capacity to determine areas needing further improvement; and
- Communicate with policy makers the status of Missouri's bioterrorism preparedness and response ability with recommendations for future action.

To ensure coordination and collaboration between the HRSA and CDC grants for bioterrorism preparedness and response planning, the executive director will have responsibility over both grants and management responsibilities for the staff coordinating the two grants. The position will also have responsibility to ensure that coordination and collaboration exists with other emergency planning occurring in Missouri, including serving on advisory committees of other planning efforts, as well as on the Missouri Bioterrorism Preparedness Committee established under Critical Benchmark #2.

The executive director will be responsible for assuring that Missouri is fulfilling the requirements of the HRSA and CDC grants and for supervising the staff implementing the grant activities. Management responsibility will include: assuring that needs assessments are performed in Missouri and that existing needs assessments are included in the gap analysis for both the HRSA and CDC grants; assuring that contracts needed to implement the bioterrorism preparedness and response activities are completed within the proposed timelines; developing monitoring systems to regularly examine contract compliance and assuring that regional and state plans are coordinated and have consistency across the state.

The position will also have primary responsibility for evaluating actions and communicating to policy makers and stakeholders the progress Missouri is making in improving the state and local public health preparedness and response to bioterrorism and in hospital and community bioterrorism preparedness and response. Responsibilities will include quarterly reporting to the Missouri Bioterrorism Preparedness Committee as well as communications with the Governor, Office of Homeland Security and Missouri General Assembly on the status of Missouri's bioterrorism preparedness and response capacity and capability and recommendations for further improvement.

In addition, a Bioterrorism Hospital/National Pharmaceutical Stockpile Coordinator will be hired. This person will organize two on-site statewide exercises per year involving activation of the 12-Hour Push Package. A tabletop exercise and planning session with SEMA and DHSS staff will be held prior to an actual on-site exercise. The first on-site exercise will test response at a metro level and the second at the rural level. Representatives from each of the nine regions will participate in both the metro and rural exercise. After each exercise a debriefing session will be held to evaluate the exercise, discuss lessons learned, review existing policy, and determine potential gaps in the management of the NPS.

2. Hospital Preparedness Planning Committee

Missouri has established a Bioterrorism Preparedness Planning Committee (serving both the HRSA and CDC bioterrorism preparedness and planning grants) to provide strategic leadership, direction, coordination, and assessment of activities to ensure state and local readiness, interagency collaboration and preparedness for bioterrorism, other outbreaks of infectious disease, and other public health threats and emergencies. The committee will serve as the HRSA-required Hospital Preparedness Planning Committee and assure coordination with the CDC Public Health Preparedness and Response for Bioterrorism grant, and the emergency preparedness and response activities of the State Emergency Management Agency and others throughout the state.

The current roster of the Bioterrorism Preparedness Committee is the following:

NAME	TITLE/ORGANIZATION
Susan Jenkins	Director, Emergency Response/Terrorism Center, DHSS
Nancy Bush	Assistant Director, Emergency Response/Terrorism Center, DHSS
Rebecca Miller	Vice President for Quality & Regulatory Advocacy, MO Hospital Association (representing all hospitals in Missouri)
Joseph Pierle	Executive Officer, Missouri Primary Care Association
Tom Mohr	Public Safety Manager, Missouri State Emergency Management Agency
Charles Jackson	Director, Department of Public Safety
William Farr	State Fire Marshal, Department of Public Safety
Mary Jo Everhart	Administrator, Platte County Health Department (Chair of Local Public Health Advisory Committee)
Gil Copley	Administrator, St. Charles County Department of Community Health & the Environment (Chair of Missouri Association of Local Public Health Agencies)
Jacquelynn Meeks	Administrator, St. Louis County Department of Health (Missouri's local public health agency with largest population)
Rex Archer	Administrator, Kansas City Health Department (representing NACCHO)
Carey Smith	Deputy Director, Division of Health Standards & Licensure, DHSS (representing State Emergency Medical Services)
Bryant McNally	Director, Center for Health Improvement, DHSS (representing Office of Rural Health)
Tricia Schlechte	Deputy Director, Health & Public Health, DHSS (representing ASTHO)
Jerry Simon	Deputy Director, Senior Services & Regulation, DHSS
Mahree Skala	Director, Center for Local Public Health Services, DHSS
Dante Gliniecki	Statewide Volunteer Coordinator, SEMA

The Bioterrorism Preparedness Planning Committee has met throughout the process of developing the HRSA and CDC grants and provided input and guidance at the Committee level and through participation in development of the focus level responses and plans. The Bioterrorism Preparedness Planning Committee will meet in May/June of 2002 to examine other areas for added representation to the committee. Areas that will be considered include, but are not limited to the following: state agriculture

department, mental health department and education department; public health university programs; representation of the two MMRS in Missouri.

The Bioterrorism Preparedness Planning Committee will meet quarterly, and will provide guidance on the grant activities, assure interagency collaboration and coordination, and provide an evaluation function within the bioterrorism planning and readiness assessment process by reviewing the progress of the six focus areas within the CDC grant and the HRSA grant.

Missouri also proposes to expand the strategic direction and coordination process by adding advisory committees to each of the six focus areas in the CDC grant and within the HRSA planning. These advisory committees will meet at least twice a year to provide input on the direction, resource allocation and progress of the bioterrorism preparedness and planning activities. Representatives of the advisory committees will meet at least annually with the Bioterrorism Preparedness Planning Committee to report on the results of their work and make recommendations for consideration by the Bioterrorism Preparedness Planning Committee. The Bioterrorism Preparedness Planning Committee will provide oversight for allocating resources and developing workplans to ensure coordination and integration with other emergency planning grants and activities based on the reports of the advisory committees.

3. Regional Hospital Plans

Missouri has elected to divide the state into nine (9) regions. The following regions have been agreed to as the regions for bioterrorism planning:

- Area A (Western Missouri – Kansas City area and surrounding counties)
- Area B (Northeast Missouri – Kirksville area and surrounding counties)
- Area C (Eastern Missouri – St. Louis area and surrounding counties)
- Area D (Southwest Missouri – Springfield/Joplin areas and surrounding counties)
- Area E (Southeast Missouri – Cape Girardeau area and surrounding counties)
- Area F (Central Missouri – Columbia/Jefferson City areas and surrounding counties)
- Area G (South-central Missouri – West Plains and Ozark area counties)
- Area H (Northwest Missouri – St. Joseph area and surrounding counties)
- Area I (Central Missouri – Ft. Leonard Wood area and surrounding counties)

At the core of an effective response to a bioterrorist event is an effective statewide plan and correlating regional plans to guide the actions of hospitals, first responders, and others impacted. The plans that are developed must be well understood by all hospital staff and must be connected to the actions of key stakeholders in the community. These plans will address the needs of the entire community – prenatal, neonatal, infant, child, adolescent, adult through geriatric populations and ensure that special needs populations are included in planning.

A review of *Bioterrorism Readiness Plan: A Template for Health Care Facilities*, which was developed for the Centers for Disease Control and Prevention by the Association of Professionals in Infection Control and Epidemiology (APIC), will be conducted to determine its applicability in the development of the nine regional plans.

Contracts will be developed with the Missouri Hospital Association (MHA) and the Missouri Primary Care Association (MPCA) to facilitate creation of regional plans that are capable of addressing an incident that involves 500 patients in each of the nine regions and implementation of those plans. Each contract will require participation by adequate representation from hospitals and community health centers in the planning for the region. All of the hospitals in the state, including the military and VA hospitals are members of the Missouri Hospital Association. Likewise, all community health centers are members of the Missouri Primary Care Association. A further requirement of the contract will be the

creation of a hospital/health system advisory committee to advise MHA in the development of the regional plans to include the following: bed capacity, isolation and quarantine for casualties, management of overcrowding, management of patients between hospitals, equipment needs, special needs populations, access to essential goods and services, hospital security and safe disposal of medical waste. The MPCA will serve as a member of this advisory committee.

The actual content of the regional plans and the strategies to implement them will be dependent on the completed needs assessment. However, integration of the priority planning areas will be addressed as they form a foundation for the necessary components of a regional plan that can address 500 patients in each region.

The timeline for the development and implementation of the regional plans will be as follows:

March 2002	Appoint initial Hospital Bioterrorism Preparedness Planning Committee
March 2002	Appoint executive director
April through June 2002	Bioterrorism Hospital Preparedness Grant Coordinator position developed
June 2002 through July 2002	Complete analysis of existing needs assessment information

GOAL 1: Analysis of current assessments is completed – July 2002

June 2002 through July 2002	Develop scope of work and tool for completion of needs assessment
June 2002 through August 2002	Develop scope of work and guidelines for development of regional hospital plans
July 2002	Initiate contract for completing needs assessment

GOAL 2: Needs assessment tool is developed – August 2002

September 2002	Initiate contract with MHA and MPCA to facilitate regional planning
September 2002	Advisory committee for MHA contract is appointed

GOAL 3: Completed Needs Assessment – October 2002

October 2002	Disseminate information from needs assessment by region
October 2002 through May 2003	Develop regional hospital plans

GOAL 4: Preliminary regional hospital plans are complete

May 2003 through June 2003	Coordinate regional hospital plans with state plan
June 2003	Regional tabletop exercise of regional plans (will include preliminary regional hospital plan)
June 2003	Statewide tabletop exercise of state plan
July 2003 through Oct. 2003	Evaluate effectiveness of regional hospital plan
August 2003	Statewide simulated exercise of state plan
November 2003	Complete regional hospital plans

GOAL 5: Final regional hospital plans are complete

December 2003	Prioritize elements necessary to implement regional hospital plans
January 2004	Develop timeline for implementation of regional hospital plans and strategies for addressing identified deficiencies

A continuous quality improvement methodology will be applied to the process outlined above to identify opportunities for enhancement that will result in a more comprehensive regional hospital plans and response to a bioterrorism event involving 500 patients in a region.

FIRST PRIORITY PLANNING AREAS

1. Medications and Vaccines

The department has a detailed response plan related to mass prophylaxis. The plan includes the receipt and distribution of the National Pharmaceutical Stockpile (NPS) from CDC. In an effort to coordinate the roles at both the state and local levels, the plan was developed in conjunction with external partners including, St. Louis and Kansas City's Metro Medical Response System (MMRS), local public health agencies (LPHAs), the State Emergency Management Agency (SEMA), and Local Emergency Planning Councils (LEPCs). The plan follows the guidelines established by CDC and includes the roles and responsibilities of DHSS, SEMA, and the MMRS/LEPC.

In order to establish the capacity to provide prophylaxis at the local level the MMRS teams, as well as the LPHAs and LEPCs, are surveying pharmacies, hospitals, and physicians to determine their pharmaceutical caches. Local and state resources will be exhausted prior to the activation of the NPS. At this time, Missouri does not plan to add an additional stockpile of antibiotics or vaccine.

The Hospital Bioterrorism Preparedness Planning Committee mentioned above continues to meet to establish a statewide approach to the management of the NPS, unified treatment procedures for prophylaxis, as well as tracking of those treated. The statewide decisions will be incorporated into the plan on an as needed basis.

As state level plans are currently being addressed, the regional plans will be coordinated to assure that there are no unnecessary obstacles to the effective administration of needed medications and vaccines. Presentations of the state plan will be made in each of the regions to assure that the hospitals in the region are aware of the plan. The plan will also be shared with the Hospital Bioterrorism Preparedness Committee as well as the hospital/health system advisory committee to MHA.

One individual will coordinate development of the National Pharmaceutical Plan in conjunction with the hospital preparedness plan.

2. Personal Protection, Quarantine and Decontamination

According to an assessment performed by the American Hospital Association, it is believed that universal precautions (gloves, gown, mask, goggles, etc.) used by medical personnel to prevent infections will generally provide protection from the biological agents commonly considered to be threats. However, in the event of a large-scale biological event, hospitals would have to provide at least this level of protection to all staff. A hospital's daily inventory of such items would be quickly exhausted and the replacement of these supplies and equipment would be necessary. This is particularly the case because hospitals would have to be prepared to receive not only patients who would be decontaminated in the field, but also patients who "walk in" without being decontaminated. In such events, initial triage would need to be performed by health care workers in appropriate personal protective equipment (PPE). Hospitals generally are not stocked with suitable PPE to protect clinicians and other health care workers from exposure in the event of a biological or chemical attack, particularly one involving an unknown agent. The highest level of PPE, Level A, provides the best protection for workers but is extremely costly to purchase and train staff in its use. It is believed that Level B protection is appropriate for front-line clinicians in most health care settings, which provides a high level of protection yet provides ease of movement and comfort for the worker and is less costly than level A protection. Many hospitals in Missouri have analyzed their current and future needs for PPE; however, again this has not been performed comprehensively across the state. It is important to note that health care organizations must make their own determination concerning appropriate level of PPE based on regulatory requirements, evaluation of potential hazards and consultation with local emergency response agencies. The needs

assessment will provide an opportunity to more thoroughly analyze PPE, quarantine and decontamination capability and needs.

3. Communications

There is a need to improve the current level of communication with hospitals and health care providers in Missouri. This was made evident post September 11 when it became important to provide timely and accurate information to hospital and health care providers about the management and treatment of possible anthrax-related specimens and cases. During this time, the Missouri Hospital Association provided DHSS with e-mail and fax listings for hospital contacts that would be available 24 hours a day, 7 days a week, which met the immediate needs, but highlighted the need for improved communications in the future.

The needs assessment will form the foundation to further develop the communications capacity of hospitals while responding to a bioterrorist event. The state bioterrorism hospital preparedness program will be activated by a variety of mechanisms, depending on the circumstances. Emergency notifications can be provided by electronic mail or fax from DHSS or the local public health agency in a specific jurisdiction. The DHSS is contemplating the purchase of equipment that will allow these emergency notifications to also be sent to telephones, cellular phones or pagers. A component of the regional plans will be to develop and maintain a database of alternative means of communications with the hospitals and other health care providers, such as community health centers, in the region.

Currently, the Missouri Hospital Association is proposing to expand an Internet-based communication system that is being used by hospitals, ambulance services and dispatch centers in the St. Louis and Kansas City metropolitan areas. Such a system would link all hospitals, public health departments, Department of Health and Senior Services, ambulance services, dispatch centers, emergency operations centers, and other defined users throughout the state. The system has the capability to post notices and alerts, including an audible alarm, and to monitor emergency department and hospital capacity on a real-time basis. In addition, the system provides instantaneous reporting of changes in emergency department diversion status to DHSS to comply with licensing regulations. Future capabilities of the system include user-defined reporting and facilitation of syndromic surveillance reporting from hospitals to public health, including automatic retrieval of data from established hospital systems. The system has redundant back up servers and the proposal includes use of satellite capability as back up to land-based communication.

As outlined in the cooperative agreement with the Centers for Disease Control and Prevention, DHSS will contract with a public relations agency to develop materials that will be used in the event of a bioterrorism event. Included in the materials developed will be instructions that can be used to educate the general public on steps they need to take. These materials will be dependent upon the development of emergency plans with specifics for citizen actions. Information will be disseminated in the most effective manner, as addressed in the department's risk communication plan. The regional hospital plans will be tied to this communication strategy so a consistent message can be delivered across the state.

The interim risk communication plan developed by DHSS outlines methods that will be used to communicate with the public in the event of a bioterrorism event, including issuing news releases, staffing a hotline to answer citizens' questions and concerns, updating at least every two hours the department's bioterrorism web page, and holding news conferences and media briefings.

4. Biological Disaster Drills

The state plan will be exercised on an annual basis to demonstrate proficiency in responding to bioterrorism, other infectious disease outbreaks, and other public health threats and emergencies. Missouri plans to conduct a tabletop exercise of the plan in July 2003. Evaluations following the exercise the plan will be presented to the Missouri Bioterrorism Preparedness Committee for evaluation, and will

be used to assure coordination with other emergency preparedness and response plans and activities. Recommendations resulting from the tabletop exercise will be incorporated into the state plan, and a full simulated exercise of the state plan will occur in August 2003 to demonstrate proficiency and determine needed areas of improvement.

The nine regions within Missouri will also conduct tabletop exercises of their individual regional response plans in June 2003. The resulting evaluations of these exercises will be presented to the Bioterrorism Preparedness Committee and to the local governing boards to further improve the regional response and to update the regional plans.

Two National Pharmaceutical Stockpile (NPS) exercises will be conducted yearly. One exercise will be in a rural location and the second in a metropolitan area to ensure that Missouri is fully prepared and has demonstrated proficiency in managing the NPS.

SECOND PRIORITY PLANNING AREAS

The second priority planning areas of personnel, training and patient transfers are intertwined with the first priority planning areas. However, the needs assessment as well as the extent of funding available to address the priority areas, may result in limiting the focus to the first priority planning areas.

1. Personnel

Even though this is a second priority planning area, it is likely to be a necessary component of the regional plans. Because the regional plans are based on a 500-patient event in the region, it is probable that the existing personnel in any hospital would be unable to handle the influx without a contingency plan in place.

An increase in qualified personnel will be difficult to achieve, as Missouri is already experiencing shortages in many medical personnel. Based on a study performed by the Missouri Hospital Association, by 2020 the nation's hospitals will need 434,000 more nurses than will be available to meet patient demand. The average percent vacancy rate for registered nurses in Missouri is 10.6%, ranging from 4.5% to 13.4%, and for licensed practical nurses is 10.9%, ranging from 3.5% to 17%. Vacancy rates in Missouri's nursing schools average 21% and fewer students are entering health care educational programs. The growing elderly population and reduced pool of young people entering the workforce is creating a long-term labor shortage. In addition to the shortage of nurses in Missouri, shortages of the following health care professionals have also been identified: pharmacists, lab technicians, operating room technicians, pharmacy technicians, radiology technicians and respiratory therapists. The plans that are developed will evaluate the options of sharing personnel from across the state to respond to an incident in any given region. Due to the nature of health care delivery in Missouri, it is possible for large systems to share personnel from their multiple sites.

The needs assessment will detail the current status of the two metropolitan medical response systems in the state as well as the disaster medical assistance teams. Upon completion of the assessment, efforts will be made to coordinate the regional planning for hospitals with these entities.

Legal review and assistance from the associations representing the medical professionals as well as the licensing bodies in Missouri will be necessary to determine the extent of mutual aid agreements and license reciprocity. Current efforts are underway in the metropolitan areas of the state to develop mutual aid agreements. The state professional boards have begun to address the issue of multi-state licensure, and draft legislation calls for the Governor to have the ability to waive the regulatory requirements for credentialing activities.

Credentialing and supervision of personnel will be detailed as a component of the regional plans. As funds become available, a system will be created to manage information relating to the credentialing of personnel and to verify the status of individuals offering to provide services during an event.

2. Training

DHSS will coordinate with academic institutions to deliver training related to teams working in a crisis and how to make quick and appropriate decisions in a crisis. Training will be provided on a state and regional level. This activity will be coordinated through the Office of Training and Professional Development and the Center for Local Public Health Services in cooperation with the Center for Emergency Response/Terrorism.

Education for family physicians, infection control professionals, emergency department personnel, health center professionals, first responders and other related professions is also planned. DHSS will determine what programs are needed and what formats for education and training should be used for the above groups. After determination DHSS will contract with education institutions and HRSA workforce preparedness programs to develop and provide training for the above groups on bioterrorism and public health emergencies. The Medical Consultant described in Focus Area A of the CDC planning grant and a representative from the Missouri Hospital Association will counsel the contractors to assure course content is acceptable according to the guidelines established by DHSS.

3. Patient Transfer

Due to the requirements of a 500 patient incident in a region, it will be necessary for hospitals to address the issues of patient transfer. Currently, federal and state laws establish criteria for some patient transfers. The accrediting bodies also require plans to be in place to address patient triage and transfer.

As the regional plans are developed, the current legislative and regulatory issues and hospital plans will be evaluated to determine if such legislation and regulation and the breadth of the plans allow for addressing the issues that would be faced during a bioterrorist event involving 500 patients in a region.

INFRASTRUCTURE

1. Staffing and Medical Direction

The Director, Center for Emergency Response/Terrorism position is designated as the bioterrorism hospital preparedness coordinator. The responsibilities of the director will include the following:

- Ensure coordination and collaboration in bioterrorism and emergency response planning.
- Manage staff and activities of the HRSA and CDC grants to ensure that Missouri is fulfilling the requirements of the HRSA and CDC grants.
- Evaluate Missouri's bioterrorism preparedness and response capabilities and capacity to determine areas needing further improvement.
- Communicate with policy makers the status of Missouri's bioterrorism preparedness and response ability with recommendations for future action.

Hospital and National Pharmaceutical Stockpile Coordinator will have the following responsibilities related to the HRSA grant:

- Day-to-day management of grant-related activities.
- Analyze reports regarding needs assessments that have already been performed in Missouri;
- Prepare report summarizing findings of existing assessments.
- Outline/define areas that need further assessment.
- Assure that an assessment addressing unknown issues is performed.
- Develop scope of work to have assessment completed.

- Develop scope of work for disbursement of funds to hospitals for regional planning.
- Monitor assessment and hospital contracts for compliance.
- Prepare report summarizing all assessment results at a statewide and regional level.
- Facilitate meetings to distribute and discuss the findings of the assessments.
- Collect regional plans and make suggestions for changes that will allow fitting in with state plan.
- Coordinate National Pharmaceutical Stockpile planning and exercise of state plan.
- Act as a liaison with hospitals engaged in the regional planning.

A Medical Consultant position will have the following responsibilities:

- Provide expertise in the areas of emergency medicine and infectious diseases for plan development.
- Provide training of personnel on plan components that relate to medical personnel.
- Provide consultation, educational seminars or presentations related to emerging infections, terrorist events, mass casualty events, pandemic influenza planning and other topics as appropriate.

A Clerk IV position will provide general administrative support to the staff working on the HRSA grant.

2. Coordination and Collaboration

Coordination and collaboration is designed throughout the HRSA and CDC grants through the organization of the Center for Emergency Response/Terrorism and the Bioterrorism Preparedness Committee. The same person will have primary oversight over both the HRSA and CDC grants (See Critical Benchmarks “Program Direction” section). The funding for the positions within the Center for Emergency Response/Terrorism will be shared between the HRSA and CDC grants when appropriate (see attached organization chart and budget). The Bioterrorism Preparedness Committee will serve as the HRSA-required Hospital Preparedness Planning Committee and the CDC Public Health Preparedness and Response for Bioterrorism committee. It also will coordinate with the emergency preparedness and response activities of the State Emergency Management Agency and others throughout the state. The Bioterrorism Preparedness Committee is key in the process for strategic leadership, direction, coordination, and assessment of activities to ensure state and local readiness, interagency collaboration, and preparedness for bioterrorism.

3. Systems Development

Matching funds for several important health care initiatives have been provided over the years by the Missouri Hospital Association. In the case of this HRSA grant, the Missouri Hospital Association has provided initial funding for the Internet-based communication system that is being used by hospitals, ambulance services and dispatch centers in the St. Louis and Kansas City metropolitan areas. This grant proposes to expand the system to link all hospitals, local public health agencies, Department of Health and Senior Services, ambulance services, dispatch centers, emergency operations centers, and other defined users throughout the state. MHA has also worked in collaboration with DHSS over the years to fund several initiatives designed to improve health at the community level – including loans for nurses and physicians to practice in underserved areas. This history of collaboration provides strong evidence of a sustainable partnership and provides a basis for the continuation of the relationship in bioterrorism preparedness and response beyond the potential life of the HRSA grant. The Bioterrorism Preparedness Committee includes representatives of SEMA and other entities in Missouri involved in emergency planning. These partnerships, which have been long-standing, will also provide sustainability for the bioterrorism preparedness planning at the hospital and community level.

LEGISLATION AND REGULATION

The Missouri Department of Health and Senior Services has completed a review of the state statutes and regulations to ensure that public health measures can be executed. The department also completed a review of state statutes and regulations in comparison to the proposed Model State Emergency Health Powers Act developed for the Centers for Disease Control and Prevention. Based on the review, the Missouri Department of Health and Senior Services has worked with the Governor's Office and legislators in the Missouri General Assembly (chairs of Senate Public Health and Welfare Committee and Senate Aging, Families and Mental Health Committee and House Children, Families and Health Committee) to develop legislation adding a definition of bioterrorism, providing temporary licensure for medical professionals from other states to practice in Missouri during a declared disaster, and addressing several other areas in Missouri's statutes. The legislation is being considered in the current Second Regular Session of the 91st Missouri General Assembly.

The Missouri Department of Health and Senior Services meet in Kansas City on April 4 and 5, 2002 with representatives from Missouri's eight surrounding states, the Millbank Foundation, and the Centers for Disease Control and Prevention to review the ability of states to respond and coordinate between the states during an emergency. Select legislators (chairs of public health committees), state health department directors and their general counsels along with CDC representatives examined the statutory and regulatory provisions needed to enable response across state boundaries. Arizona and Wisconsin sent legislators to observe so that they can conduct a similar meeting of their border states. Based on this meeting, an action plan will be developed to address any statutory and regulatory issues needed to assure interstate response to bioterrorism.

BIOTERRORISM HOSPITAL PREPAREDNESS PROGRAM**Budget****DHSS Infrastructure**

Emergency Response/Terrorism Director ($\$73,000 \times .50$)	\$36,500
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Emergency Response/Terrorism Assistant Director ($\$63,000 \times .50$)	\$31,500
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Medical Consultant ($\$103,000 \times .50$)	\$52,500
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Hospital/National Pharmaceutical Stockpile Coordinator ($\$60,000 \times .83$)	\$50,000
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Emergency Response Coordinator	In-kind
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Clerk IV (100%)	\$26,460
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Total Salaries	\$196,960
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Fringe and Indirect	\$172,709
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Total Salaries/Fringe/Indirect	\$369,659
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Travel	\$15,000
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Office Supplies	\$1,500
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TOTAL DHSS INFRASTRUCTURE	\$386,169
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MHA/MPCA Infrastructure

Needs Assessment (Includes data collection, analysis, and assessment tool development.)	\$175,000
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EMSystem	\$176,000
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Missouri Hospital Association-Regional Planning	\$1,580,449
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Missouri Primary Care Association- Regional Planning	\$100,000
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TOTAL MHA/MPCA INFRASTRUCTURE	\$2,031,449
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GRAND TOTAL	\$2,417,618
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